

WHAT IS CLAIMED IS:

- 1 1. A method for performing one or more service operations on a Fibre
2 Channel, the method comprising:
3 transferring an initiator frame through a Fibre Channel, the Fibre Channel
4 being coupled to a security apparatus;
5 receiving the initiator frame via a Fibre Channel interface at the security
6 apparatus; determining header information from the initiator frame;
7 extracting source information, destination information, and exchange
8 information from the header information;
9 retrieving at least one policy based upon at least the source information and
10 the destination information, the policy being directed to setting up at least a flow associated
11 with the initiator frame;
12 associating a subsequent frame including an incoming payload with the flow
13 associated with the initiator frame;
14 processing an incoming payload associated with a subsequent frame and
15 associated with the initiator frame; and
16 transferring the processed payload through the Fibre Channel.
- 1 2. The method of claim 1 wherein the policy is one of a plurality of
2 policies stored in a rule database.
- 1 3. The method of claim 1 wherein the policy is one of a plurality of
2 policies stored in a rule content addressable module, the content addressable module being a
3 content addressable memory.
- 1 4. The method of claim 1 wherein the service is a security operation.
- 1 5. The method of claim 1 wherein the initiator frame is associated with a
2 read request and the policy is associated with a decryption process.
- 1 6. The method of claim 1 wherein the initiator frame is associated with a
2 write request and the policy is associated with an encryption process.
- 1 7. The method of claim 1 wherein the policy is associated with an access
2 control process.

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1 8. The method of claim 1 wherein the policy is associated with a statistics
2 process.

1 9. The method of claim 1 wherein the policy is associated with a transport
2 policy.

1 10. The method of claim 1 wherein the processing is provided on a
2 security action processor.

1 11. A method for performing a service operation on a Fibre Channel, the
2 method comprising:

3 transferring an initiator frame through a Fibre Channel, the Fibre Channel
4 being coupled to a security apparatus;

5 transferring one or more subsequent frames through the Fibre Channel after
6 the initiator frame;

7 receiving the initiator frame via a SCSI format through the Fibre Channel;

8 determining header information from the initiator frame;

9 extracting source information, destination information, and exchange
10 information from the header information of the initiator frame;

11 performing a look up operation on a look up table using a header information
12 on the initiator frame;

13 creating one or more flows based upon the header information of the initiator
14 frame; and

15 retrieving at least one policy based upon at least information in the header
16 information;

17 associating the one or more subsequent frames with the one or more flows
18 based upon the header information of the initiator frame;

19 processing an incoming payload associated with the one or more subsequent
20 frames for at least intrusion detection; and

21 transferring the processed payload of the one or more subsequent frames
22 through the Fibre Channel.

1 12. The method of claim 1 wherein the processing of the incoming payload
2 is provided at wire speed.

13. The method of claim 1 wherein the processing of the incoming payload is at a speed of greater than 1 Gigabit per second.

14. The method of claim 1 wherein the look up table is provided in a flow content addressable memory.

15. The method of claim 4 wherein the processing of the incoming payload is provided at wirespeed, the processing comprising an encryption or a decryption process.

16. A system for performing a service operation on a Fibre Channel, the system comprising:
an interface coupled to a Fibre Channel;
a classifier coupled to the interface, the classifier being adapted to receive an initiator frame from the interface; the classifier being adapted to determine header information from the initiator frame and being adapted to determine source information, destination information, and exchange information from the header information;
a flow content addressable memory coupled to the classifier, the flow content addressable memory being configured to store one or more header information, each of the one or more header information being associated with a state;
a rule content addressable memory coupled to the classifier, the rule content addressable memory being configured to store one of a plurality of policies; and
a processing module coupled to the classifier, the processing module being adapted to process an incoming payload associated with the initiator frame and the header information.

17. The system of claim 1 further comprising a statistics processor coupled to the classifier.

18. The system of claim 1 further comprising a generic action processor coupled to the classifier.

19. A transparent method for performing security operations on one or more Fibre Channels coupled to a communication network, the method comprising:
transferring a frame through a Fibre Channel, the Fibre Channel being coupled to a security apparatus;
receiving the frame at the security apparatus;

6 determining header information from the initiator frame;
7 extracting source information, destination information, and exchange
8 information from the header information;
9 performing a look up operation on a look up table using a header information
10 on the frame;
11 creating one or more flows based upon the header information; and
12 retrieving at least one policy based upon at least the source information and
13 the destination information;
14 processing an incoming payload associated with the initiator frame, the
15 payload being derived from one or more subsequent frames; and
16 transferring the processed payload through the Fibre Channel.

1 20. The method of claim 1 wherein the processing of the incoming payload
2 is provided at wire speed.

1 21. The method of claim 1 wherein the processing of the incoming payload
2 is at a speed of greater than 1 Gigabit per second.

1 22. The method of claim 1 wherein the look up table is provided in a flow
2 content addressable memory.

1 23. The method of claim 4 wherein the flow content addressable memory
2 is provided with a predetermined size.

1 24. The method of claim 1 wherein the incoming payload is provided on a
2 responder frame.

1 25. The method of claim 1 wherein the processing of the incoming payload
2 is based upon the flow that was based upon the header information.

1 26. The method of claim 1 wherein the processing is performed using at
2 least the one policy.